CLAIMS

What is claimed is:

1. A method of controlling an inkjet printer having an ink injection heater, the method comprising:

determining whether an ink cartridge is installed in the inkjet printer;

printing patterns in order by driving the ink injection heater with an array of predetermined pulses with widths that vary in sequential order in response to the ink cartridge being connected to the inkjet printer;

detecting printing densities of the printed patterns;

determining the pattern with an optimal density among the printing densities; and

storing the width of the pulse corresponding to the pattern with the optimal density as an optimal pulse width.

2. The method according to claim 1, wherein the determining the pattern with the optimal density comprises:

comparing the printing densities of each of the printed patterns, after the first printed pattern, with that of the respective previous printed patterns;

storing the width of the pulse corresponding to the current density in response to the current density being larger, by a predetermined difference, than the previous density; and

storing the width of the pulse corresponding to the previous density in response to the current density not being larger, by the predetermined difference, than the previous density.

3. The method according to claim 1, wherein the widths of the pulses in sequential order comprise pulses with widths descending by a predetermined width difference from a reference pulse, and pulses with widths ascending by the predetermined width difference from the reference pulse.

4. The method according to claim 3, wherein the reference pulse has a mean width of the array of predetermined pulses.

5. The method according to claim 2, wherein the predetermined difference is evaluated by adding a predetermined value to the previous density, and determining whether the current density is larger than the sum of the previous density and the predetermined value.

6. The method according to claim 1, wherein a printing operation is performed with reference to the stored optimal pulse width.

7. The method according to claim 1, wherein a standby status is maintained when a cartridge install detection signal is not inputted.

8. A controlling device for an inkjet printer having an ink injection heater, comprising:

a cartridge receiving part installing an ink cartridge therein and outputting an install detection signal;

a driving part driving the ink injection heater, in accordance with an external input control signal, to inject ink in the ink cartridge while performing a printing operation;

a sensor detecting printing densities of patterns printed on printing media by the printing operation driven by the driving part;

a controlling part controlling the driving part so that pulses with widths that vary in sequential order by a predetermined width difference are applied to the ink injection heater to print patterns corresponding to the widths of the pulses, and determining the width of the pulse corresponding to the pattern with an optimal density by comparing the printing densities outputted from the sensor; and

a memory storing the width of the pulse corresponding to the pattern with the optimal density determined by the controlling part.

9. The controlling device according to claim 8, wherein the widths of the pulses in sequential order comprise pulses with widths descending by the predetermined width difference from a reference pulse, and pulses with widths ascending by the predetermined width difference from the reference pulse..

10. The controlling device according to claim 8, wherein the controlling part compares the densities of the patterns in ascending order to determine, as an optimal pulse width, the width of the pulse corresponding to the pattern which has the highest density that is larger, by a predetermined difference, than the density of the previous pattern.

11. The controlling device according to claim 8, wherein the controlling part controls the driving part to perform the printing operation according to the width of the pulse stored in the memory upon inputting a printing command.

12. The controlling device according to claim 8, wherein the sensor is disposed under the ink cartridge.

13. A printer having an ink injection heater, comprising:

a cartridge receiving part to receive an ink cartridge therein and outputting an install detection signal; and

a controlling part that determines an optimal width of a pulse inputted to the ink injection heater in response to receiving the install detection signal;

wherein the optimal width of the pulse is set according to each head so that ink is injected uniformly.

14. The printer according to claim 13, further comprising a memory, wherein the optimal width of the pulse is stored in the memory, and a printing operation is performed with reference to the stored optimal width of the pulse.

15. A system comprising:

a printer having an ink injection heater;

a cartridge receiving part receiving an ink cartridge;

a sensor detecting printing densities of patterns printed on printing media; and

a controller part controlling the width of pulses sent to the ink injection heater;

wherein the controller causes the printer to print a series of printing patterns with pulses of varying widths, and determines an optimal pulse width for the ink cartridge by evaluating the printing densities of the printed patterns.

16. The system of claim 15, further comprising a memory, wherein the optimal pulse width is stored in the memory, and a printing operation is performed with reference to the stored optimal pulse width.